Systems Management Opportunities

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Systems Management Opportunities

for
Andersen Consulting

(Revised 11/2/90)

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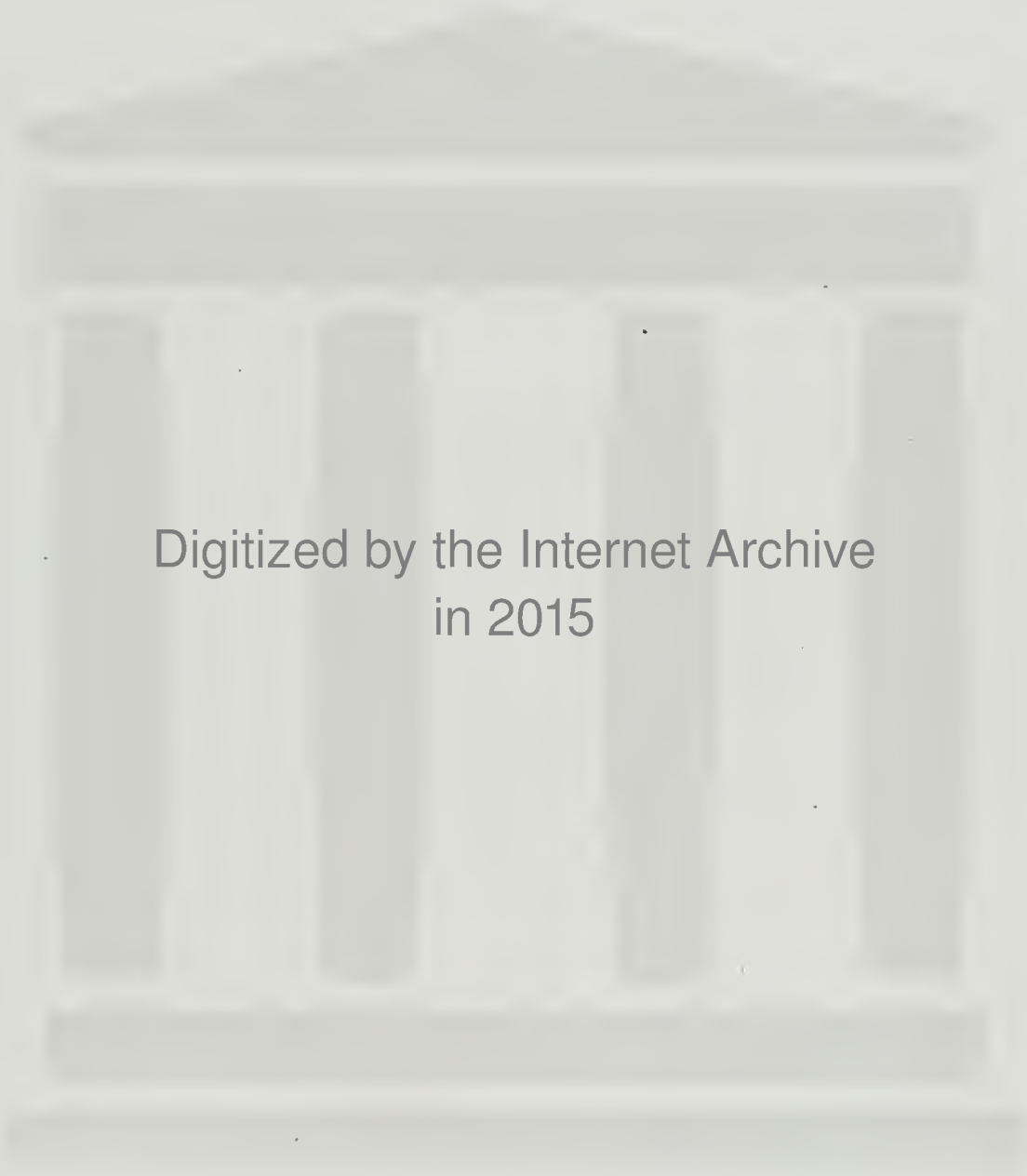
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Systems Management Opportunities for Andersen Consulting

Overview

I. Introduction

II. Market potential for systems management 1990-1995

III. Buyer values

IV. Competition

V. Related markets

VI. Business operations

VII. Key issues and observations

VIII. Recommendations—Andersen Consulting

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I. Introduction

- Project Objectives
- Methodology

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Project Objectives

- Dimension the systems management function
- Describe buyer values
- Evaluate vendor positions in the marketplace
- Provide recommendations for Andersen Consulting

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Methodology

- Forecasted total user information systems expenditures
- Developed forecast for Andersen Pipeline
- Used INPUT's existing data to
  - Analyze potential markets
  - Assess competitive positions
- Developed strategy recommendations

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II. Market Potential

- Total U.S. IS expenditures 1990-1995
- Internal vs. external expenditures
- Market potential for systems management
- Economic impacts
- Andersen's "Market Space" - Primary SM
- Potential related markets

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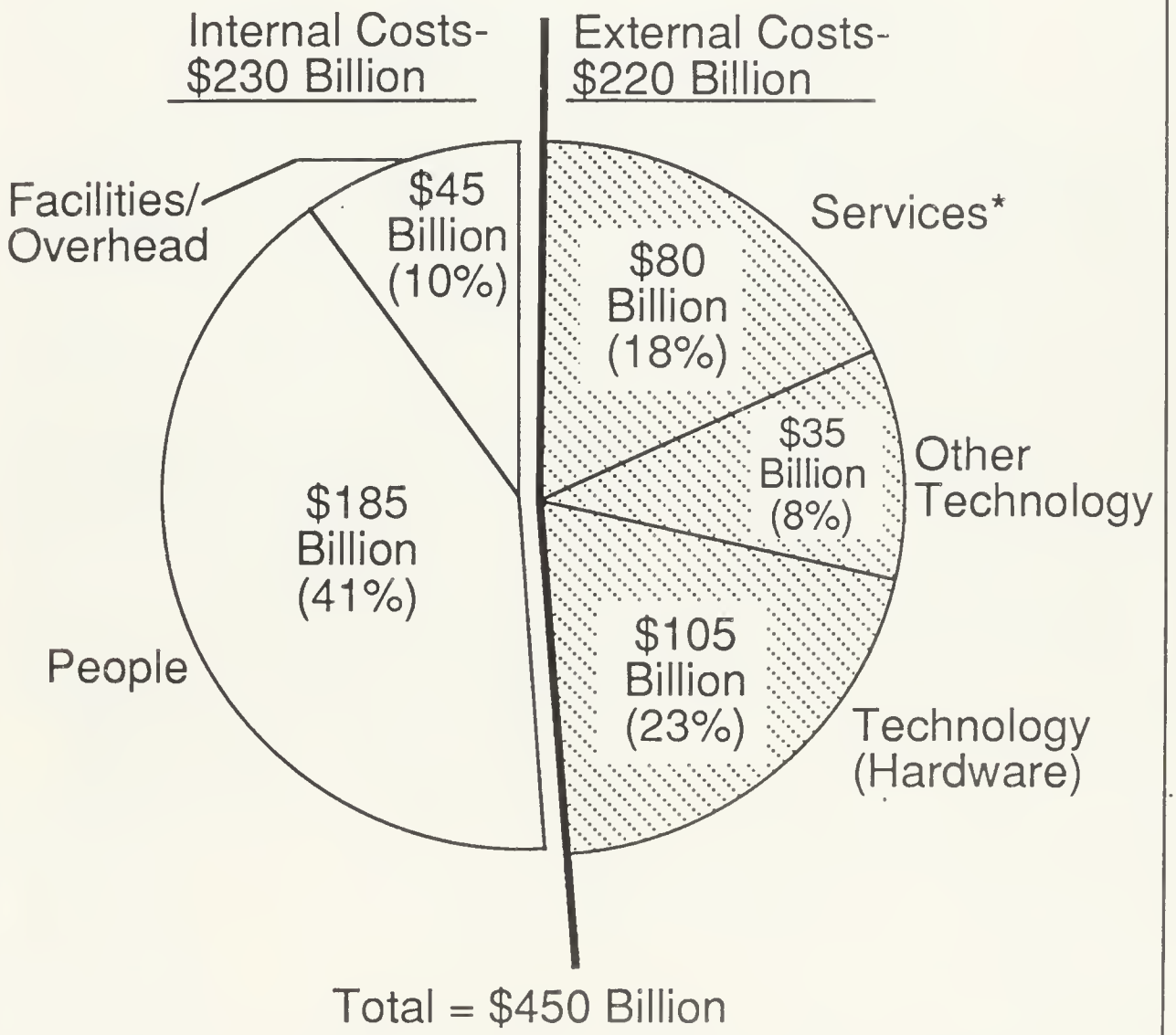
U.S. Information Systems Expenditures 1990 Cost Components



*Note: Services = all INPUT delivery modes except system software and network services (NS)

Additional $20 billion of system software and NS-network applications included in Technology

$6 billion of user-purchased NS-electronic information services excluded from analysis

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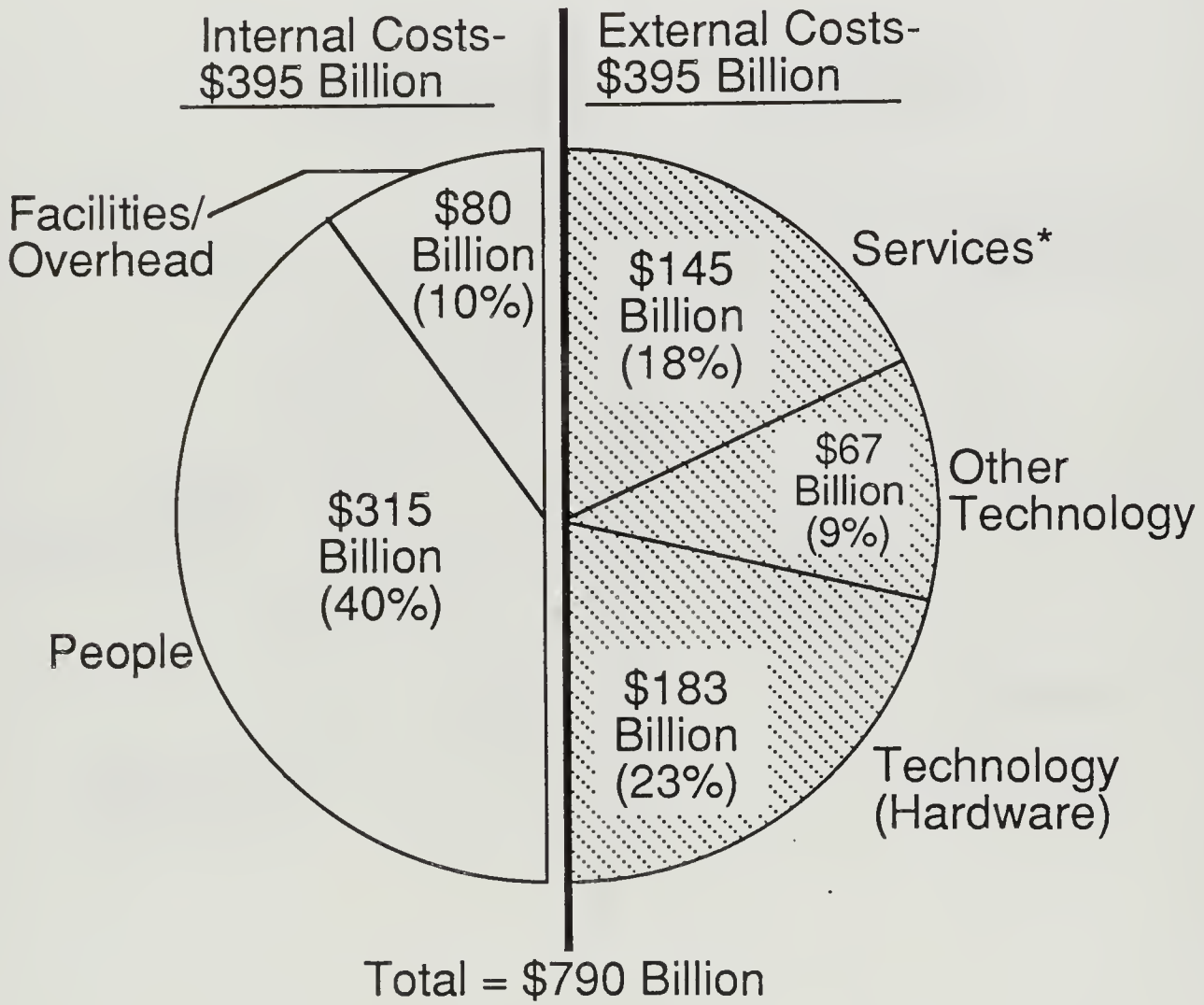
U.S. Information Systems Expenditures 1995 Cost Components



*Note: Services = all INPUT delivery modes except system software and network services (NS)

Additional $40 billion of system software and NS-network applications included in Technology

$15 billion of user-purchased NS-electronic information service excluded from analysis

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Observations
U.S. IS Expenditures, 1990-1995

- 1995 expenditures will be approximately 1.8 times 1990's
- Approximate 50/50 split between "inside" and "outside"; expenditures will shift slightly in favor of "outside" by 1995
- Bulk of inside expenditures throughout the period remain "people" costs and are subject to displacement into the "outside" category

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U.S. IS Expenditures, 1990-1995 Functional Distribution

- Maps user expenditures into:
  - Systems development, maintenance enhancement, acquisition
  - Operations
- Assumes INPUT's current growth rates to establish 1995 distribution of expenditures

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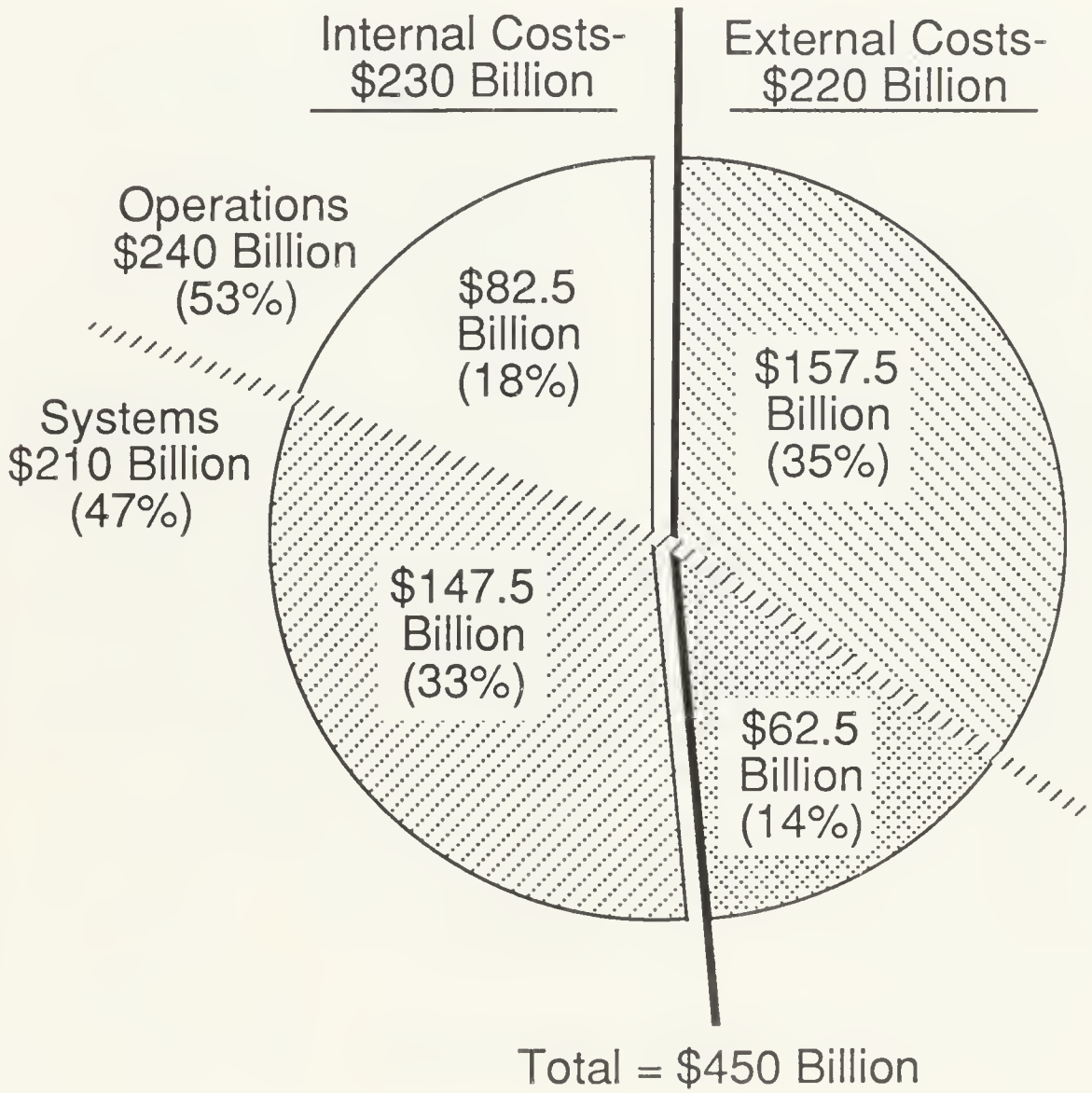
U.S. Information Systems Expenditures 1990—Functional Distribution



- Operations - Internal
- Operations - External
- Systems - Internal
- Systems - External

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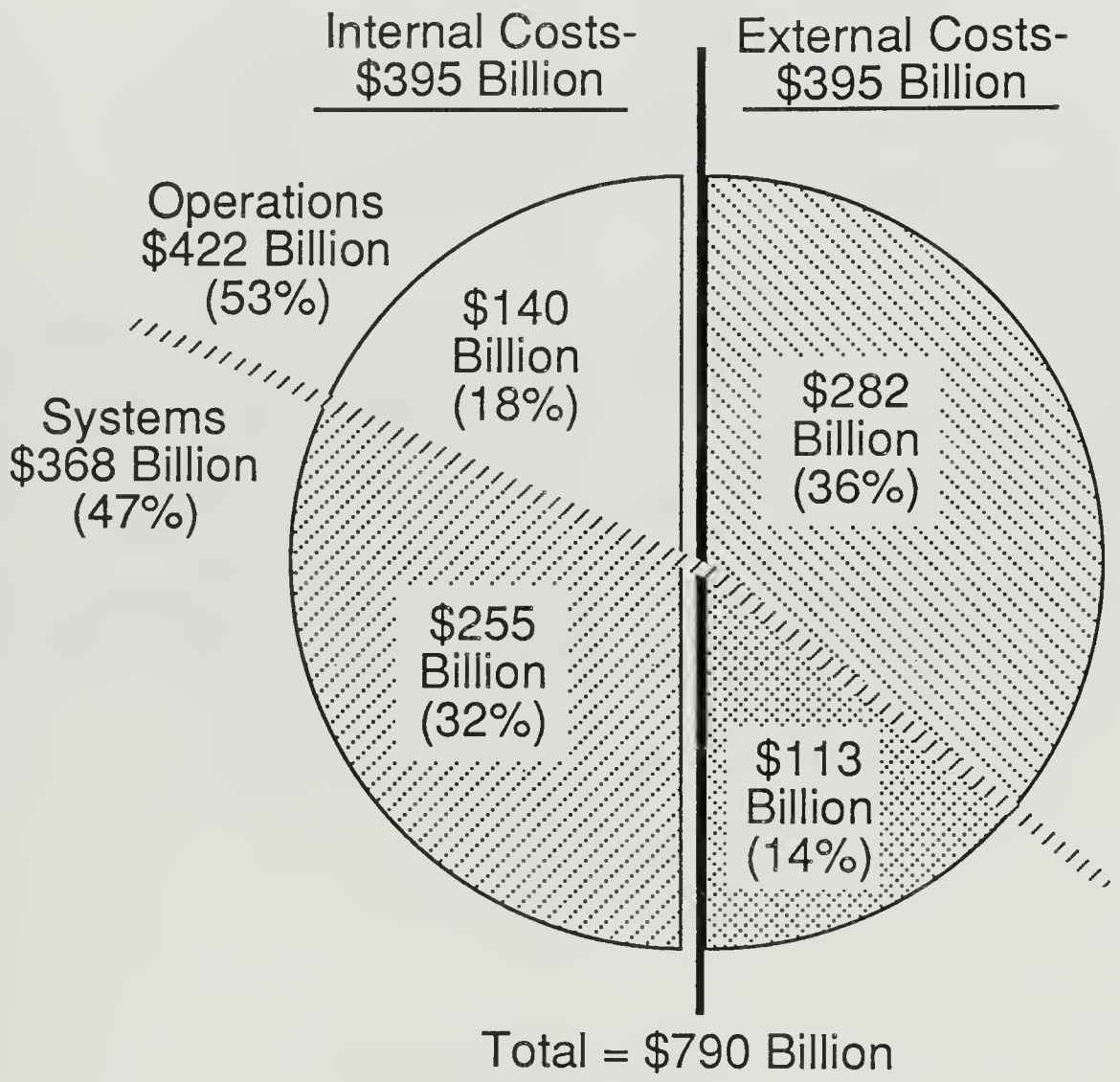
U.S. Information Systems Expenditures 1995—Functional Distribution



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Functional Distribution Observations

- Approximately even split between systems and operations
- Majority (70%) of systems budget is internal cost
- Majority (66%) of operations budget is external cost

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Functional Distribution Observations

- Of external operations cost, 89% is technology-based
  - Equipment and maintenance
  - Systems software
  - Data communications
- Remaining portions associated with standard service delivery modes:
  - Processing services
  - Systems operations
  - Professional services

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Restructuring User Expenditures into the Andersen 'Pipeline'

User Functional Activity	Andersen Systems Management Pipeline Category
• Data Acquisition	- (not applicable)
• Systems	- Application Systems Support Relationships - Systems Integration
• Operations	- MIPS Factories - Operations Engineering - Network Services - Backup and Recovery Services
• Business Operations	- Business Operations

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Determination of Relationship-Based Applications Support (AS) Assumptions

- A minimum of 50% of all systems development professional services is maintenance and enhancement
- 15% of maintenance and enhancement is contracted on a "relationship" basis
- The remainder (85%) is on a T & M basis

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Determination of Relationship-Based Applications Support, 1990-1995 U.S. Market Potential

	1990 ($ Billions)	1995 ($ Billions)
Total Professional Svcs.	18	32
Less: T & E* and consulting	-6	-11
Professional Services Dev	12	21
Total AS = 50%	6	11
Relationship-based AS (15%)	1	2

* T & E = Training and Education

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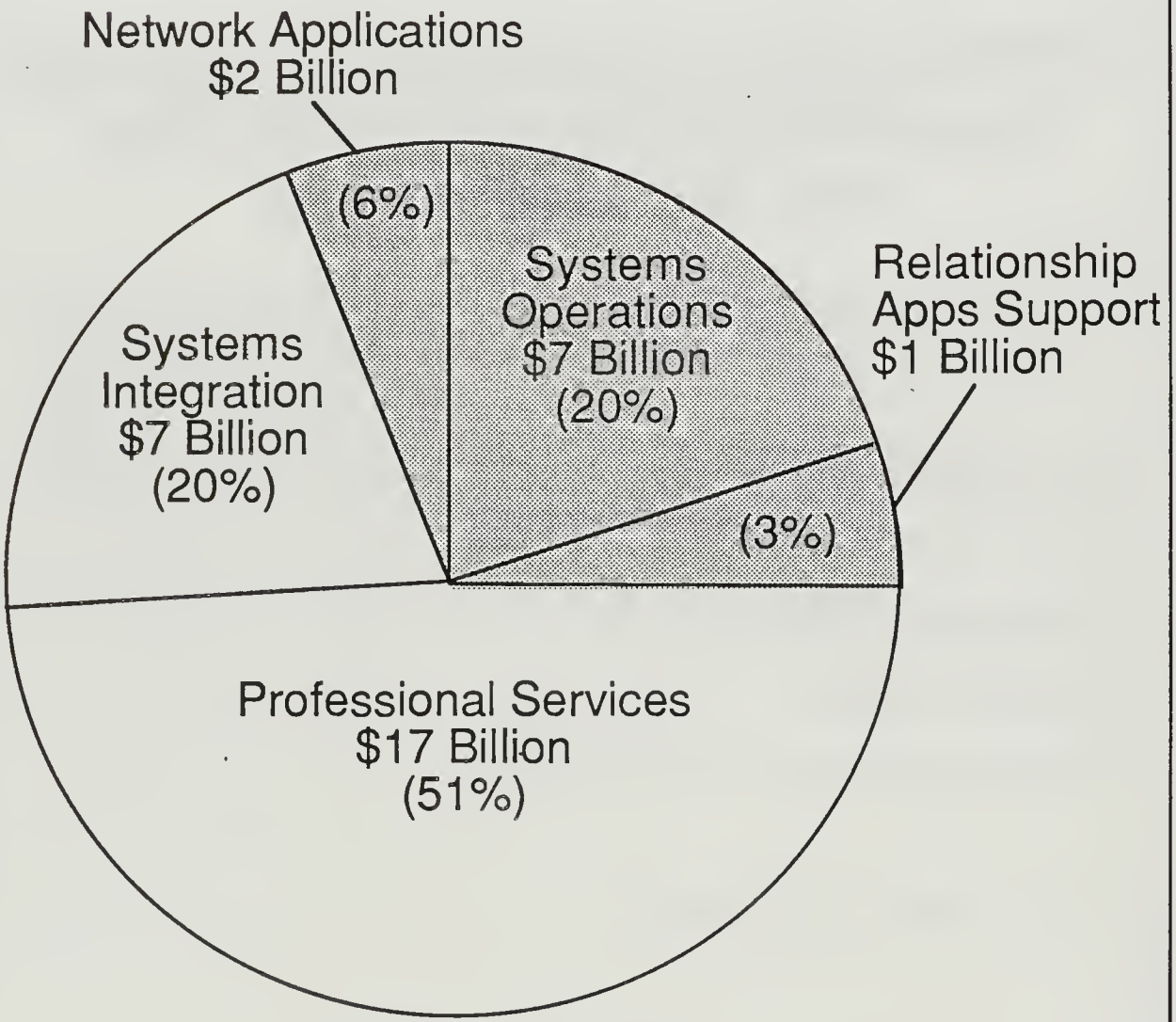
Total U.S. Market Potential by Delivery Mode 1990



Total = $34 Billion

In Andersen Pipeline $10 billion

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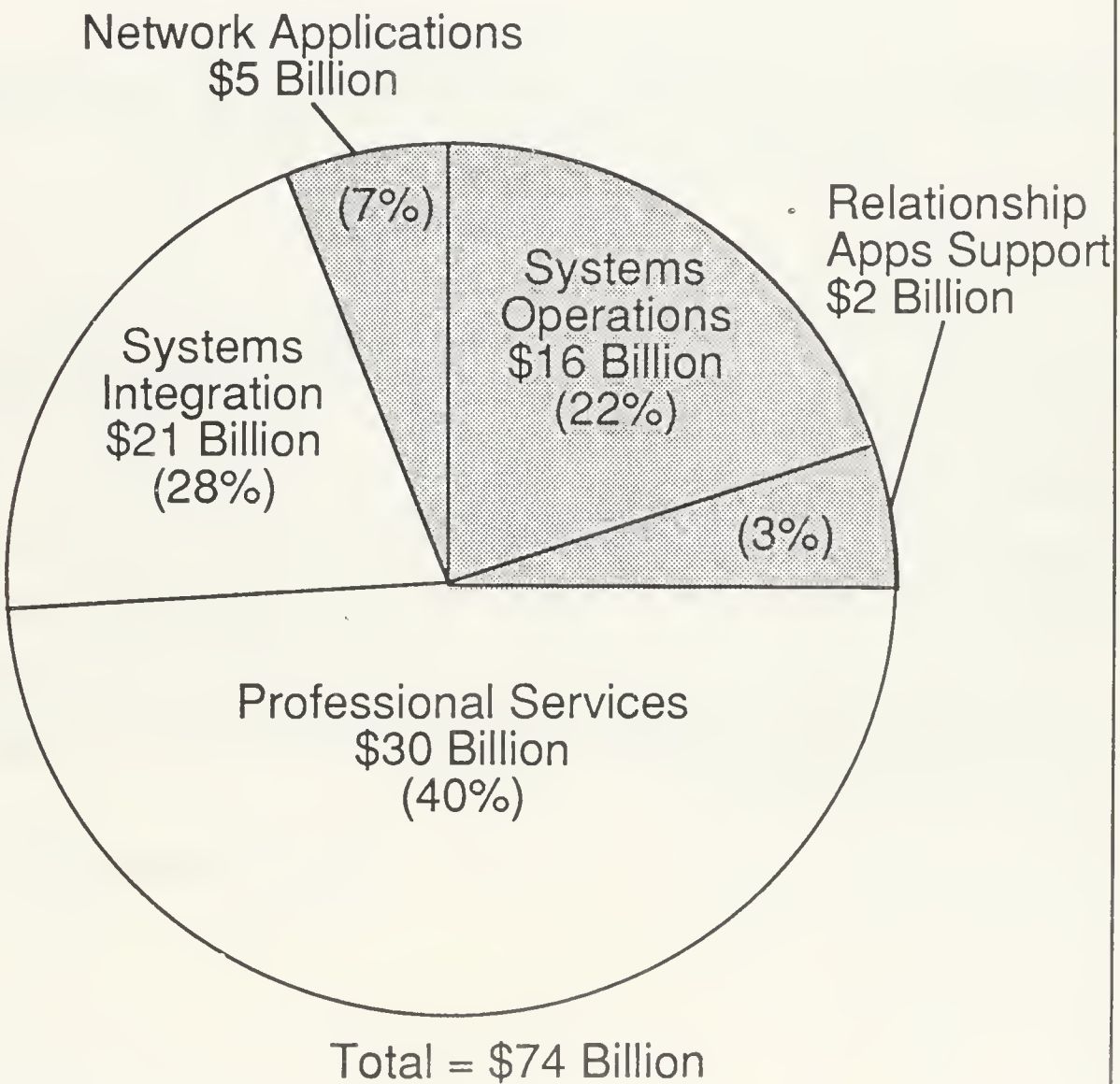
Total U.S. Market Potential by Delivery Mode 1995



Total = $74 Billion

In Andersen Pipeline $23 billion

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Total U.S. Market Potential—Summary (Andersen's SM Pipeline)*

	1990 ($Billions)	1995 ($Billions)	CAGR (Approximate %)
Network applications	2	5	20
System operations	7	16	18
Applications support	1	2	15
Total	10	23	18

* Excluded business operations, SI, disaster recovery and includes relationship based AS

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Market Forecast
Andersen Pipeline*

	1990 ($Billions)	1995 ($Billions)	CAGR (Percent)
Applications support	1.0	2	15
MIPS factories	5.0	13	21
Operations engineering	2.0	3	8
Network services	2.0	5	20
Backup and recovery	.5	1	15
Total	10.5	24	18

* Includes disaster recovery

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Conclusions—Andersen's Available Market

- Market will support aggressive growth ($10 billion - 1990 to $24 billion - 1995)
- Aggressive pursuit of applications support could expand market by $5 billion - 1991 to $9 billion
  - Aggressive development of AS market
  - Conversion of T & M AS to relationship-based AS
- Market is primarily made up of user dollars already budgeted
- Pursuit will open up related opportunities

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III. Buyer Values

- Buyer motivations - Key trends
- Buyer motivations - Driving forces
- Buyer motivations - Evaluation criteria
- Key targets
- Conclusions

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Buyer Motivations—
Key Trends

- Buyers becoming sellers of IS organizations
- Conversely—vendors are becoming buyers

Implications—

- CFO is increasing involved
- CEOs and CFOs view IS as an asset
- Equity based deals preempt IS stragegy based

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Buyer Motivations—Driving Forces

Category	Systems Integration	Systems Operations
Staff	Scarcity of talents Unique skills	Scarcity of talents
Technology	Unique technology New technology	Increasing complexity New technology
Response	Rapid response to change in business processes	Service requirements Disaster recovery
Financial	One-time investment	Investment avoidance Greater economies of scale, reduction of asset base
Infrastructure	Wholesale replacement or upgrade	Rehabilitation, ease of expansion in capacity/function

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Systems Management—Evaluation Criteria*

Ranking	Criteria
1	Better/more-flexible service
2	Availability of internal operating skills
3	Lower operating expenses
4	Faster application changes
5	Data security/privacy
6	Faster application development
7	Response to personnel changes
8	Reduced capital investment

*Based on user research of leading IS executive

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Systems Management—
Vendor Selection Criteria*

Ranking	Criteria
1	Industry experience
2	Application knowledge
3	Cost/performance
4	SI/SO experience
5	Management skills
6	Support skills
7	Service orientation

*Based on user research of leading IS executive

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Key SM Targets

- Large ($200 million and above in revenue)
- Companies with IS budgets above $10 million
- Vertical sectors undergoing business transition
- Merger/acquisition-prone industries
- High technology/high growth companies

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Technology-Driven—Targets

"Anywhere new technologies or trends offer strategic advantage and force major changes in infrastructure... High Risk... Economies of Scale"

- New technology
  - Image processing
  - Multiplatform network integration
- Impacted industries
  - Manufacturing
  - Insurance
  - Banking

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Conclusions

- There is plenty of market space
- Targeting markets/prospects is significant
- *Infrastructure* is significant

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IV. Competition

- Capabilities assessment - SM market
- Strategies of key competitors
- Market share - Commercial
- Market share - Federal
- Comments on specific vendors
- Perceptions of Andersen in the market

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Systems Management Capabilities*

	AC	DEC	EDS	IBM	Comment
Executive level relationships - Scope	H	L	M	M	
- Industry	M	L	H	M	
Business consulting	H	L	M	L	Not EDS strength
Technical insight/ consulting	M	M	M	M	All are good in different areas
Industry knowledge	M	L	M	L	Both AC/EDS have SM knowledge in some industries
Implementation skills and methodology	M	L	H	M	In SM
Application management focus	H	L	L	L	
Operations infrastructure	L	L	H	M	
Access to network	L	H	H	H	INFONET+ for AC
Access to capital	M	M	H	H	
Software solutions	H	L	L	M	
Alliances/equity positions	M	L	M	H	EDS in clients IBM in companies

*INPUT opinion

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Potential Competitors
EDS

- Vertical industry business focus
  - Independent business units
  - Expanding targeted industries
- Improve on company image
- Leverage experience/resources/GM relationship
  - Capital
  - Infrastructure (network and IPCs)
  - Manufacturing experience
  - Financial experience

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Potential Competitors—EDS Willingness to Invest

- Purchase assets
- Invest in ventures with clients
  - System One
- Outright acquisitions
  - MTech
- Investing with strategic partners
  - Hitachi Data Systems
  - ASK/Ingres

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Potential Competitors
IBM

- Product oriented culture
  - Hardware
  - Systems software
  - Applications infrastructure
- Leverage/protect installed base
- SI/SO facilitate architectural control
  - Applications
  - Systems architecture (SAA)
- Alliances/equity positions to offset weaknesses
  - Will use capital to protect core business
  - Overhead and direction a problem
- Leverage market skills/coverage
- Questionable commitment to strategy

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IBM
"Market Basket Strategy"

- In effect for approximately 3 years
- Bundles services and software to hardware purchase
  - Applications software
  - Systems software
  - Network services
  - Professional services
- Provides discounting mechanism
- INPUT's view—little or no impact on systems management market

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User Images of Andersen in the Marketplace

- Well known by the financial community
- Strong in IS consulting
- Capable, and meets commitments
- Large systems focus and capabilities
- Strong process orientation
- High priced but above average quality

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Vendor Images of Andersen in the Marketplace

- Powerful senior executive relationships
- Strong in business consulting
- Average technical capabilities
- Very competitive in manufacturing/distribution
- Weak in federal area
- Perhaps overly self-confident
- Weak in infrastructure for SO
- High cost producer/SO

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Top Five Commercial Systems Operations Vendors 1990

Company	Market Share (Percent)
EDS	15
Systematics	3
Affiliated Computing	3
Shared Medical Systems	3
FFMC	1

Others at 1% include: IBM, SEI, Andersen, CSC, Covia, Perot, PMS, and Power Computing

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Comments on Specific Vendors

Vendor	Category	Strategy & Direction
Systematics	Applications Management	Focused on partnership-based strategy in banking. It provides the software.
Genix	Systems Operations	Retaining its off-site data center focus - avoids application support, but may begin to provide through partnering.
Ciber Technology	Applications Maintenance	Building applications maintenance business out of contract programming relationships. Has created own methodology.

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Top Federal Systems Operations Vendors' Two-Year Average

Company	Market Share (Percent)
Computer Sciences Corporation (CSC)	20
Unisys	11
Boeing Computer Services	11
Lockheed Corporation	8
DP Associates, Inc.	6
Planning Research Corporation	5

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V. Related Markets

Based on leveraging existing infrastructure required for primary markets

	1990 ($Billions)	1995 ($Billions)	CAGR (Percent)
• Processing services			
- Transaction processing	14.6	22.2	9
- Utility/other	2.9	4.8	11
• Turnkey systems	12.0	16.0	6
• Applications software	18.0	33.0	13
• Data acquisition	6.5	15.0	18
	54.0	91.0	11

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VI. Business Operations

- Assumptions/conclusions
- Model
- Opportunities
- Market model
- Example
- Targets
- Markets

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Business Operations Assumptions

- Information systems (IS) will become networked (cooperative)
- IS will be embedded with business operations

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Business Operations Conclusions

- Separation of functions (information systems and business operations) becomes difficult
- Therefore, entry into business operations is strategic imperative

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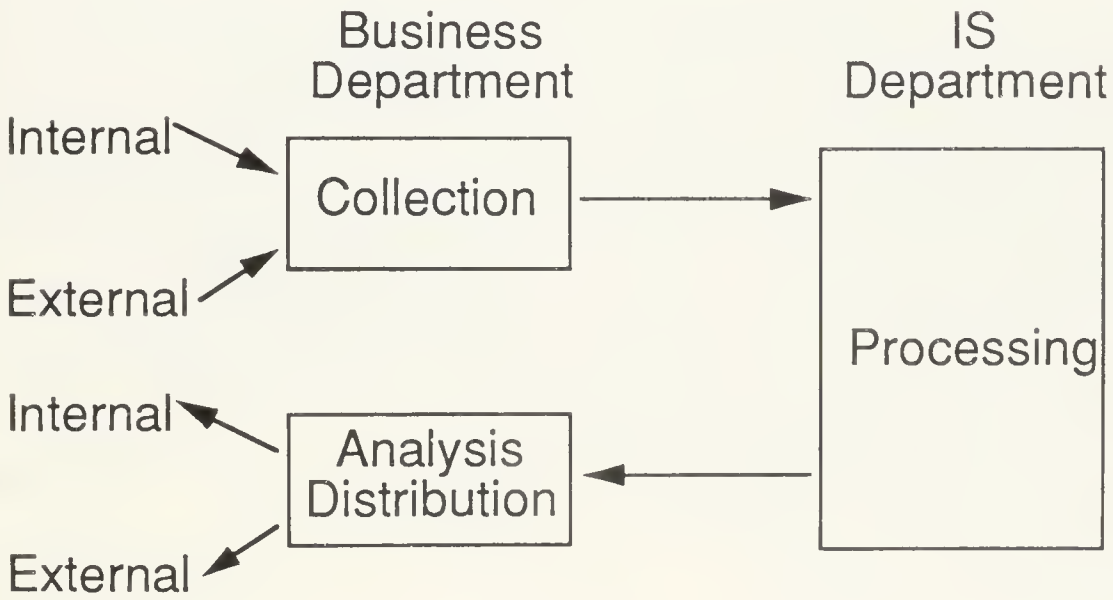
Business Functions
Old Model



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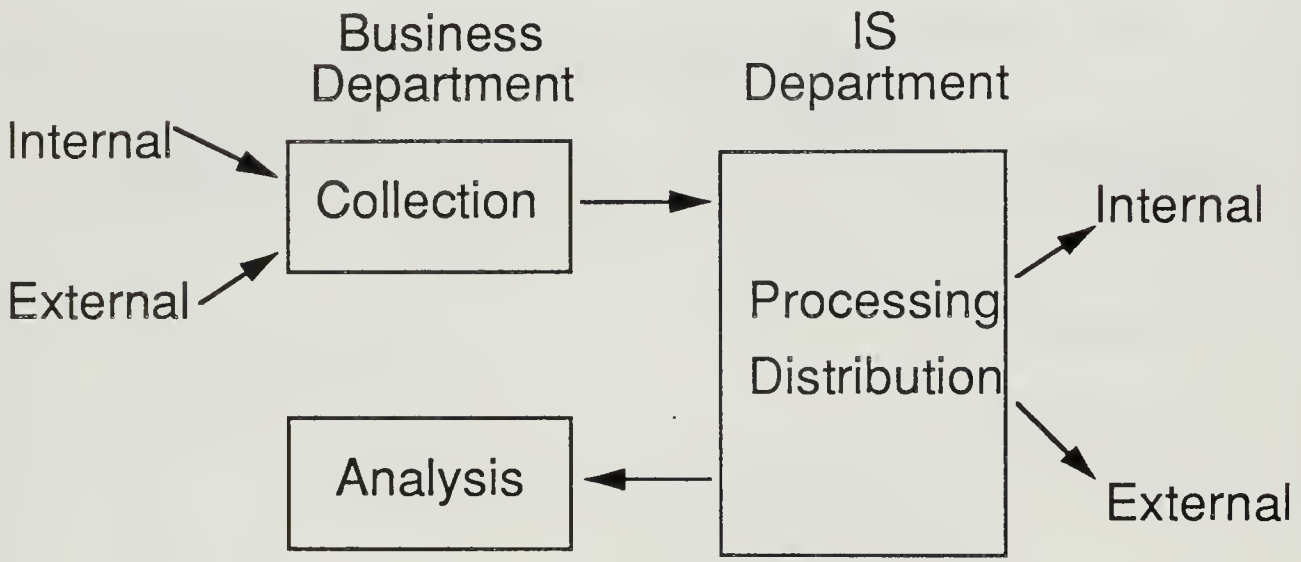
Business Functions
Current Model



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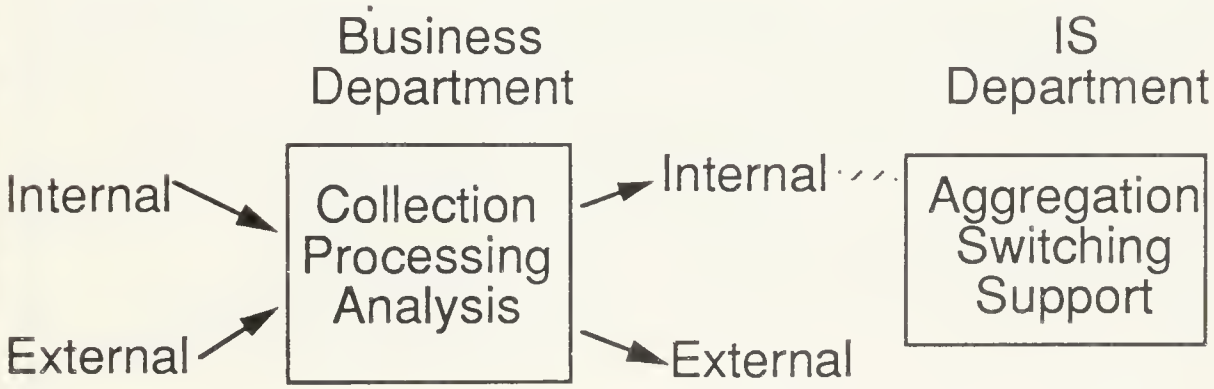
Business Functions
Future Model



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Business Operations Opportunities

- Insurance claims processing
  - Information systems expenditures
    - external - $1 billion
    - internal - $5 billion
  - Business operations - $10 billion

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Business Operations Market Model

- Business operations potential
  = 2 to 5 x IS expenditures
- Information systems expenditures
  = 3 to 7 x information services expenditures
- Range of market factors 6 to 35 x information services expenditures

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Manufacturing Business Operations Opportunities

- Sales and marketing
  - Customer service operation
  - Marketing services (telemarketing, catalogues, show management, etc.)
  - Representation services
  - Fullfillment

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Manufacturing Business Operations Opportunities

- Administration
  - Benefits operation
  - Warranty and liability operation
  - Environmental monitoring and reporting
  - Payroll
- Finance
  - Billing and collection

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Manufacturing Business Operations Opportunities

- Production
  - Modernization service
  - Plant operations
  - Inventory operations
- Distribution
  - Warehousing
  - Fleet operation

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Business Operations Components

- People—Facilities—Systems
- "Facilities management"
- Example: federal government contracts

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Business Operations Rationale for Contracting

- Deal with people issues
- Address obsolescence problems
- Handle nonessential tasks
- Finance change
- Accomplish change

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Business Operations

- Opportunities linked to change management i.e., "Don't show me how, do it for me."

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Business Operations Targets

- High IS intensity
- Essential but low strategic value
- Operational problems highly visible
- High transaction volume
- Scale opportunities

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Business Operations Examples

- Insurance claims processing
- Telephone company yellow pages operation
- Credit card operations
- Coupon processing for retailers
- Fulfillment for direct marketing
- Parking fine collection

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Business Operations Market

- Processing services/systems operations/network services - approximately $25 billion
- Assume IS 5% of costs of operations (not management)
- Therefore, potential market $500 billion

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VII. Key Issues and Observations

- Reasons for entering the SM business
- Andersen's key leverage points
- Potential risks

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Reasons for Expanding into SM

- Account management/influence/control
- Growing customer demand
- Impact on existing business—provides balance
  - SI leads to SO
  - SO leads to SI
- New opportunity for growth market
- Provides recurring revenue stream
- Builds infrastructure for other products/services

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Reasons for Expanding into SM

- Recession resistent—sustains growth in down cycles
- Feeds on existing budgets/spending (not the creation of new spending)
- Lower risk of collection problems (as compared to SI)

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Why Now?

- SM appears to be at the beginning of an accelerated growth cycle
- Business conditions should pressure up the rate of growth in next year
  - Downsizing
  - Expense reduction
  - Focus on core business
- Same conditions are a potential threat to systems integration
- SM will lead to business operations opportunities
  - Wave 1 - SI
  - Wave 2 - SM
  - Wave 3 - Business operations

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Andersen's Unique Leverage Points

- Existing reputation in SI/development
- Industry and business applications knowledge
- Human resource skills
  - Career paths
  - Development and training
- Demonstration centers
  - Key to the selling processes
  - Focal points for infrastructure development
  - Serve both SI and SM stragegy
- Global capabilities

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Potential Risks

- Interference with existing business
- Margins (short vs. long-term)
- Relationship vs. project sell
- Counterproductive incentive systems
- Capital risks
- Failure has bigger impact
- Ignoring SM will likely "lock-out" key accounts for other Andersen service
- Culture clash

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VIII. Recommendations

- Strategy
- Marketing—approach/positioning
- Successful profile

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Key Strategy Recommendations

- Avoid utility position
  - Non-differentiated
  - Low margin
  - Price competitive
- Fund infrastructure through SM contracts
  - Target specific industries
  - Target strategic geographies (to build infrastructure/critical mass)
  - Target integratable installations
  - Target specific advanced/high-cost technologies
- Actively sell other services through SM contracts

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Key Strategy Recommendations
(Continued)

- Take aggressive position in applications support
  - Largest part (>50%) of client's internal budget
  - Leverages Andersen's image
  - Requires retrofitting tools
  - Provides linkage to SI and margin
  - Creates opportunities for software products
- Leverage SI client base
- Leverage alliances in network area
- Defer entry to related markets (defocusing)

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Recommended Strategy

- Marketing approach/positioning
- Key strategy recommendations
- Potential risks

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Marketing Approach/Positioning

- Sell the way the customers buy
- Focus on community of interest—selected vertical and functional markets
- Leverage reputation for business-oriented perspective
- Emphasize applications maintenance
- Position as premier supplier
- Emphasize worldwide capabilities
- Avoid strategy conflicts
- Showcase key contracts

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Successful Systems Management Vendor Circa 1995

- Size/scope
  - Revenues/profit margins
  - Number of employees
  - Geographical coverage
  - Growth rate
- Organization/financial structure
- Marketing and sales
  - Market focus
  - Sales organization
  - Customer characteristics
- Infrastructure
  - Network
  - Processing nodes
  - Systems software

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Size and Scope in 1995

- Market leader - 20% of market ($4.8 billion)
- Successful vendor = 1 billion or more
- Target 16% before tax
- Revenue per employee - ($100K - $200 K)
- 20,000 employees
- Global - Northern Hemisphere
- Growth rate 20%, including acquisitions

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Organization/Financial Structure

Investment capital availability
($500 million, 1991-1992)

Ownership structure

- Public versus private - noncritical
- Partnership versus corporate - noncritical

Independence - not important

Organization

- LOB Prime—Industry, SI, SM
- Administration by major geographic area
- Infrastructure managed globally

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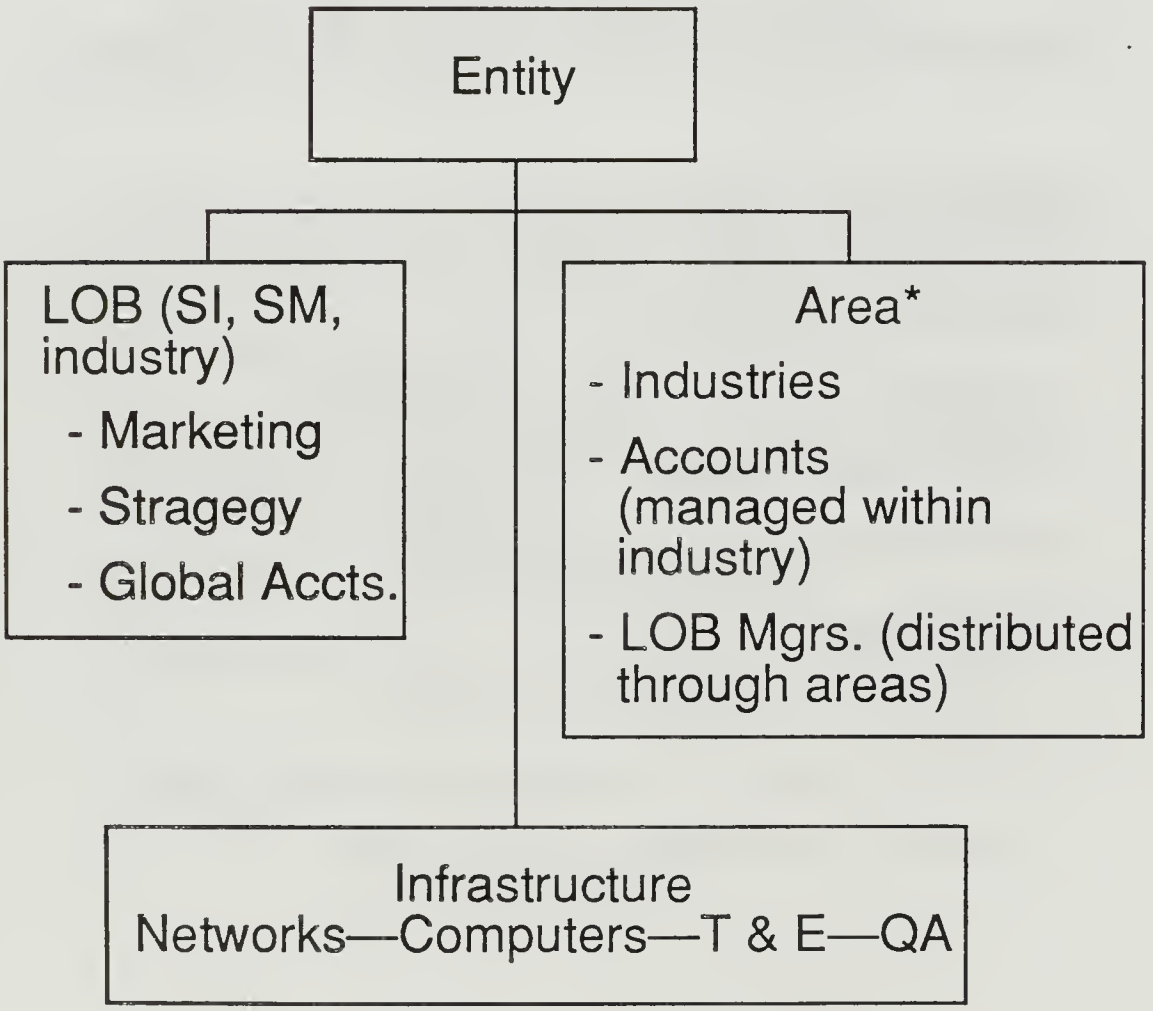
Successful Vendor Corporate Structure



* Major geographies, e.g., North America, Pacific Rim, Europe

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Marketing and Sales

Sales

- Customer (account) oriented
- LOB control (SI, SM, industry) matrixed
- 'Team' approach to sales (SM/SI) within industry
  - Account
  - LOB
  - Infrastructure

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Marketing and Sales

Marketing

- High profile—strong image
- Active promotion/advertising program
  - 2% revenues

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Infrastructure—Processing Nodes

- Highly concentrated
- Emphasis on IBM/DEC architectures
- Local architectures by country
- Multiple centers (Europe, U.S., Pacific Rim)

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Infrastructure—Network

- Global in capability
- Openly architected
- Rich in function and capability
- Centrally managed

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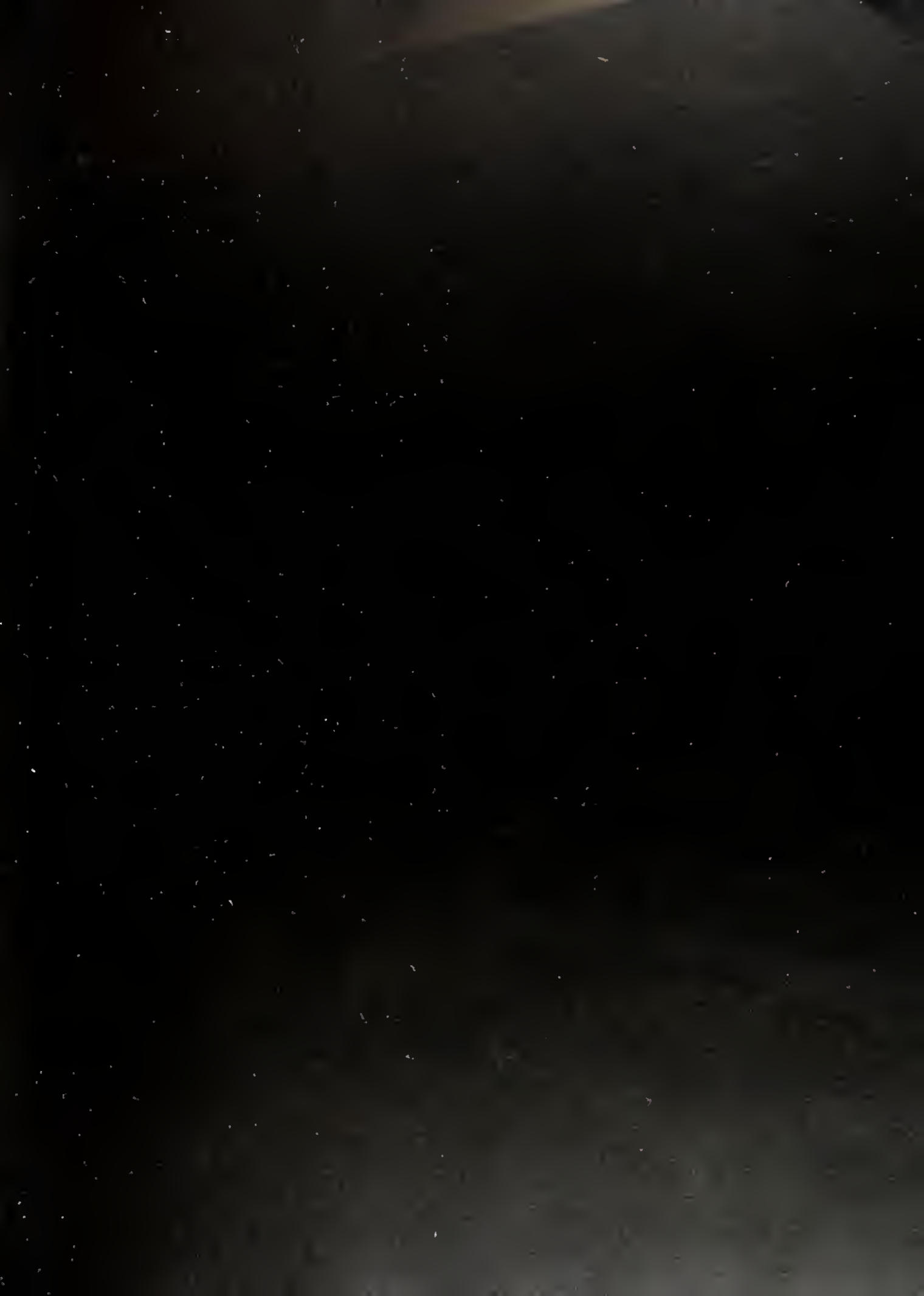
Infrastructure—Systems Software

- Standard operating environments (some variation by region—ICL, Bull, NEC)
- Standard AS (applications support) tools
- Standard NM (network management) tools
- Andersen development facilities

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